

AI-Generated Content (AIGC): A Survey

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Abstract

To address the challenges of digital intelligence in the digital economy, artificial intelligence-generated content (AIGC) has emerged. AIGC uses artificial intelligence to assist or replace manual content generation by generating content based on user-inputted keywords or requirements. The development of large model algorithms has significantly strengthened the capabilities of AIGC, which makes AIGC products a promising generative tool and adds convenience to our lives. As an upstream technology, AIGC has unlimited potential to support different downstream applications. It is important to analyze AIGC's current capabilities and shortcomings to understand how it can be best utilized in future applications. Therefore, this paper provides an extensive overview of AIGC, covering its definition, essential conditions, cutting-edge capabilities, and advanced features. Moreover, it discusses the benefits of large-scale pre-trained models and the industrial chain of AIGC. Furthermore, the article explores the distinctions between auxiliary generation and automatic generation within AIGC, providing examples of text generation. The paper also examines the potential integration of AIGC with the Metaverse. Lastly, the article highlights existing issues and suggests some future directions for application.